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Ferdinand Wiener

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EXAMINER

LU, JIPING

ART UNIT

PAPER NUMBER

3743

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/575,996 | Applicant(s) WIENER ET AL. | |
| | Examiner Jiping Lu | Art Unit 3743 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-30 and 32-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-28, 32-34 and 36-41 is/are rejected.
- 7) ☒ Claim(s) 29, 30, 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Status

1. Claims 1-8 and 31 are cancelled. Claims 9-30 and 32-41 are now in the case.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 9-11, 13-22, 24, 27-28, 32-34 and 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Champlin (U. S. Pat. 3,048,383) in view of Tanabe et al. (U. S. Pat. 5,044,938).

Champlin discloses a method and an apparatus for drying treated articles 11, the treated articles 11 being transported along a predefined transport path, with a first gas stream being blown from above onto the treated articles 11, and a second stream of a gaseous drying medium being blown from below onto the treated articles 11. The first and second gas streams are generated by corresponding fan means 39, 40 and/or damper/flap 59 and regulated in feed lines 53 to respective gas outlet devices 36. The treated articles 11 are continuously conveyed in along the transport path for drying and conveyed out after drying by transport means 12, 13. The gas outlet devices 36 are in the form of a nozzle that includes a nozzle plate 33, 34 having apertures 35 facing towards the transport path. However, Champlin does not show a temperature of the first and/or second gas stream is detected, and the same fan means for generating the first and/or second gas stream are controlled in such a way that the temperature detected is regulated to a

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predefined value. Tanabe et al. teach a concept of regulating the gas stream temperature by controlling the fan 7 rotation speed in response to the gas stream temperature detected by the temperature sensor 12 (see col. 4, lines 31-40). The gas stream pressure is also regulated by valve/flap 9 based on detected gas pressure from a pressure sensor 11. Control means 13-21 is configured to control one and the same fan means 7 which generate the respective gas flow such that the temperatures of the respective gas flows are regulated to predefined values (col. 4, lines 31-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method and apparatus of Champlin to regulate the gas flow temperature by controlling the one and the same fan rotation speed based on the detected gas stream temperature and to regulate the pressure based on the detected gas pressure as taught by Tanabe et al. in order to more efficiently control the gas stream temperature and pressure and obtain a predictable gas temperature and pressure control result. For claims 39 and 41, see openings 27, 28 of Champlin. As to the claimed pressure sensor means arranged between the respective regulating means and the gas outlet device recited in claims 17, 37, Tanabe et al. teaches an apparatus for drying article 3 comprising pressure sensor means 11 arranged between the respective regulating means 7, 9 and the gas outlet devices 2 for detecting a pressure generated by the respective gas flow. The control means 13-21 controls the regulating means 7, 9 in dependence on the pressure detected by the respective pressure sensor means 11. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the apparatus of Champlin to include pressure sensor means arranged between the regulating means and the gas outlet device as taught by Tanabe et al. in order to more efficiently control the gas pressure.

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4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Champlin (U. S. Pat. 3,048,383) in view of Tanabe et al. (U. S. Pat. 5,044,938) as applied to claim 11 above, and further in view of Leap (US 2003/0136019 A1).

The apparatus of Champlin as modified by Tanabe et al. as above includes all that is recited in claim 12 except for the nozzle apertures include elongated slits. Leap teaches a drying apparatus with nozzle apertures including elongated slits 30 same as claimed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the apparatus of Champlin to include a nozzle with elongated slits as taught by Leap in order to obtain a predictable drying result.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Champlin (U. S. Pat. 3,048,383) in view of Tanabe et al. (U. S. Pat. 5,044,938) as applied to claim 22 above, and further in view of Hochstrasser et al. (U. S. Pat. 4,113,977).

The apparatus of Champlin as modified by Tanabe et al. as above includes all that is recited in claim 23 except for an extraction means, a pressure sensor means and a control means for controlling extraction means based on the pressure detected by the pressure sensor.

Hochstrasser et al. teach an apparatus for drying article 54 comprising an evacuation duct 38, an extraction means 82, a pressure sensor 90 and a control means 94 same as claimed. The control means 94 controls the extraction means 84 in such a way that a pressure detected by the pressure sensor means 90 is maintained at a constant predefined value (see Fig. 7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the apparatus of Champlin to include an extraction duct, an extraction means, a pressure sensor and a control means for controlling the extraction means based on the pressure

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detected by the pressure sensor as taught by Hochastrasser et al. in order to more efficiently control the drying.

6. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Champlin (U. S. Pat. 3,048,383) in view of Tanabe et al. (U. S. Pat. 5,044,938) as applied to claim 24 above, and further in view of Melgaard (U. S. Pat. 5,263,265).

The apparatus of Champlin as modified by Tanabe et al. as above includes all that is recited in claims 25-26 except for an intake duct for fresh gaseous drying medium and control means for controlling the heating means based on the detected gas temperature in the gas feed line. Melgaard teaches an apparatus for drying article 26 comprising an intake duct (at 30.2) for fresh gaseous drying medium and a temperature sensor 32 and at least one gas heating means 22, 24. Control means 34.1 controls the gas heating means in such a way that the temperature detected by the temperature sensor 32 is regulated to a predefined value. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the apparatus of Champlin to include fresh gas intake duct and temperature control means for controlling the heating means based on gas temperature detected by the temperature sensor as taught by Melgaard in order to more efficiently control the drying.

7. Claims 9-11, 13-22, 24, 27-28, 32-34 and 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Tanabe et al. (U. S. Pat. 5,044,938) in view of Champlin (U. S. Pat. 3,048,383).

Tanabe et al. discloses a method and an apparatus for drying treated articles 3, the treated articles 3 being transported along a predefined transport path, with a first gas stream being blown from above onto the treated articles 3, and a second stream of a gaseous drying medium being

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blown from below onto the treated articles 3 (see Fig. 1). The first and second gas streams are generated by corresponding fan means 7 and/or damper/flap 9 and regulated in feed lines (not numbered, see Fig. 1) to respective gas outlet devices 2. The treated articles 3 are continuously conveyed in along the transport path for drying and conveyed out after drying. The gas outlet devices 2 are in the form of a nozzle that includes a nozzle plate having apertures (see Fig. 1) facing towards the transport path. Pressure sensor means 11 is arranged between the respective regulating means 83 and the gas outlet devices 11 for detecting a pressure generated by the respective gas flow. The gas stream temperature is regulated by controlling the fan 7 rotation speed in response to the gas stream temperature detected by the temperature sensor 12 (see col. 4, lines 31-40). The gas stream pressure is also regulated by valve/flap 9 based on detected gas pressure from a pressure sensor 11. Control means 13-21 is configured to control one and the same fan means 7 which generate the respective gas flow such that the temperatures of the respective gas flows are regulated to predefined values (col. 4, lines 31-40). Evacuation duct 10b is provided to evacuate the gaseous drying medium from the housing 1. However, Tanaabe et al. do not disclose a transport means including rollers arranged above and below the transport path and the number of the gas outlet devices and the arrangement of the nozzle apertures. Champlin teaches a concept of using a transport means including rollers 12, 13 arranged above and below the transport path for transporting the treated articles 11 along a predefined transport path. At least two pairs of first and second gas outlet devices are provided (see Fig. 1). At least two rows of nozzle apertures 35 are arranged side-by-side in the direction of the transport path (see Fig. 3). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method and apparatus of Tanabe et al. to include a transport

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means of Champlin in order to facilitate the transport of articles to be dried and to further modify the method and apparatus of Tanabe et al. to include at least two pairs of gas outlet devices and to arrange at least two rows of nozzle apertures side-by-side in the direction of the transport path as taught by Champlin in order to improve the drying efficiency.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe et al. (U. S. Pat. 5,044,938) in view of Champlin (U. S. Pat. 3,048,383) as applied to claim 11 above, and further in view of Leap (US 2003/0136019 A1).

The apparatus of Tanabe et al. as modified by Champlin as above includes all that is recited in claim 12 except for the nozzle apertures include elongated slits. Leap teaches a drying apparatus with nozzle apertures including elongated slits 30 same as claimed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the apparatus of Tanabe et al. to include a nozzle with elongated slits as taught by Leap in order to obtain a predictable drying result.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe et al. (U. S. Pat. 5,044,938) in view of Champlin (U. S. Pat. 3,048,383) as applied to claim 22 above, and further in view of Hochstrasser et al. (U. S. Pat. 4,113,977).

The apparatus of Tanabe et al. as modified by Champlin as above includes all that is recited in claim 23 except for an extraction means, a pressure sensor means and a control means for controlling extraction means based on the pressure detected by the pressure sensor.

Hochstrasser et al. teach an apparatus for drying article 54 comprising an evacuation duct 38, an extraction means 82, a pressure sensor 90 and a control means 94 same as claimed. The control means 94 controls the extraction means 84 in such a way that a pressure detected by the pressure

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sensor means 90 is maintained at a constant predefined value (see Fig. 7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the apparatus of Tanabe et al. to include an extraction duct, an extraction means, a pressure sensor and a control means for controlling the extraction means based on the pressure detected by the pressure sensor as taught by Hochstrasser et al. in order to more efficiently control the drying.

10. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanabe et al. (U. S. Pat. 5,044,938) in view of Champlin (U. S. Pat. 3,048,383) as applied to claim 24 above, and further in view of Melgaard (U. S. Pat. 5,263,265).

The apparatus of Tanabe et al. as modified by Champlin as above includes all that is recited in claims 25-26 except for an intake duct for fresh gaseous drying medium and control means for controlling the heating means based on the detected gas temperature in the gas feed line. Melgaard teaches an apparatus for drying article 26 comprising an intake duct (at 30.2) for fresh gaseous drying medium and a temperature sensor 32 and at least one gas heating means 22, 24. Control means 34.1 controls the gas heating means in such a way that the temperature detected by the temperature sensor 32 is regulated to a predefined value. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the apparatus of Tanabe et al. to include fresh gas intake duct and temperature control means for controlling the heating means based on gas temperature detected by the temperature sensor as taught by Melgaard in order to more efficiently control the drying.

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Allowable Subject Matter

11. Claims 29-30 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments filed on 1/23/11 have been carefully considered but not persuasive to overcome the prior art rejection. First, claims fail to define over the prior art references. The claimed features are conventional features which are clearly shown and taught by the prior art references. Broad claims 32 and 40 read on a conventional heating process and dryer of a continuous web. For example, it is common practices to regulate the temperature of drying or heat treating carpets or webs by controlling the air flows blowing from above and below the treated articles traveling a predefined path. Second, on pages 9-11 of the Remarks, the applicant disagrees with the examiner's interpretation of the prior art patent to Tanabe et al. However, the applicant fails to acknowledge when and if the fan speed is reduced, the gas stream temperature will be reduced or affected also in the chamber 2 at the predefined path 1. The appellant failed to recognize that if the valve or flap 9 is adjusted, the gas stream pressure will be reduced or affected in the chamber 2 at the predefined path 1. The appellant did not dispute these facts. This is the concept Tanabe taught. Therefore, it is the examiner's position that it would have been obvious to one skilled in the art to modify the method and apparatus of Champlain to regulate the gas flow temperature by controlling the one and the same fan rotation speed based on the detected gas steam temperature and to regulate the pressure based on the detected gas pressure as

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taught by Tanabe et al. in order to more efficiently control the gas stream temperature and pressure and obtain a predictable gas temperature and pressure control result. It is in view of the combined teaching of the prior art references, one skilled in the art would have found it to be obvious to combine because the results would have been predictable (see KSR International Co. v. Teleflex, Inc. 82 USPQ 2d 1385 (2007)).

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 571 272 4878. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KENNETH RINEHART can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jiping Lu/
Primary Examiner
Art Unit 3743

J. L.